



BEAP


FOR N239




# INTRODUCTION


Each line supervisor is responsible for implementation of Center policies.

Supervisors at all levels are responsible for the safety of people under their supervision as well as for the safety of the facilities and equipment under their jurisdiction and environmental compliance.




Line supervisors are also responsible for ensuring that all employees reporting to them have been trained in the contents of this Plan annually or at the start of their employment. Employee responsibilities must be evaluated to determine which classes are applicable. See the training questionnaire at the Code Q website located at <http://q.arc.nasa.gov>.






You must have all the required Ames training to work in laboratories with hazardous materials. If your Ames training is not current you shall work in the laboratory under the direct supervision of someone current in Ames training.

No visitor may enter a laboratory that has work being conducted under hazardous conditions without proper escort/supervision.










No student, or unpaid casual employee may enter a laboratory that has work being conducted under hazardous conditions until all safety training requirements have been met, and they must be under the direct supervision of a full time, permanent employee that is current in their safety training.

General Safety/Authority/Responsibilities: General Safety, including authority and responsibilities, Chapter 6, should be reviewed by everyone, even office workers. (<http://server-mpo.arc.nasa.gov/Services/CDMSDocs/Centers/ARC/Dirs/APG/APG1700.1C6.html>)




In The Event That There Is A  
Physically Challenged Employee Or  
Visitor In Your Area During An  
Emergency Evacuation---






**YOU ARE TO IMMEDIATELY  
CALL  
911 AND INFORM THE  
DISPATCHER  
OF THEIR LOCATION.**



**Include the floor, room number or  
other location so that the Fire  
Department may assist in their  
evacuation.**





# Working Alone

**A person who is performing work while out of audio/visual contact with a coworker. For safety reasons, working alone is not permitted under hazardous conditions. Examples of hazardous conditions include:**



• **Chemical laboratories during hazardous chemical operations.**

• **Work involving use of Class IV lasers, radioisotopes, and radiation equipment.**

• **Work with cryogenic materials or containers.**



# Building Description

N-239 is the Life Science and Research facility consisting of laboratories and offices.

Occupancy: Year-round average: 330

## Type of Construction

N-239 is a three story building with a basement and a large penthouse. The three story section has concrete walls, floors, and roof. The penthouse has a steel frame with a wood deck roof. The partitions are plasterboard on steel studs. Some partitions in the first floor on wood studs, however. Some ceilings throughout the building are celotex ceilings (glued on concrete). Combustible partitions are located within the building. Internal doors have open louvers.




# Major Building Hazards

## Mechanical


Room 436 Fume hood relays/circuit breakers & control transt.

## Physical


Room 86 Strong magnetic field (hazard to Pacemakers, metallic implants, magnetic media, ATM/credit cards, some watches)



Room 170	Mercury
Room 214	Biohazards
Room 238	Biohazards
Room 242	High voltage mass spectrometer
Room 258	Biohazards
Room 264	Noise Hazard
Room 274	Biohazards
Room 318	Mercury, biohazards
Room 320	Mercury, biohazards



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Room 324    High Voltage Mass Spectrometer,  
mercury, biohazards

Room 421    High Voltage Mass Spectrometer

Room 421    High Voltage – vacuum Instrument

Room 424    High Voltage Mass Spectrometer

Room 428    Robotics Lab

Room 436    Laser – class 2B

**Roof: North side – Gas cylinder storage**



# Confined Space

## Outside

N239 Utility access pit, southside Permit Required

## Basement

N239-01-001 Passenger Elevator shaft, East Permit Required

N239-01-001 Passenger Elevator shaft, West Permit Required

N239 Utility/pipe chaseway under loading dock Permit Required

## Roof

N239-04-0001 Outdoor Evapco Air Conditioning Units  
Permit Required



## Asbestos

Appendix 7 (<http://beap.arc.nasa.gov>) provides information regarding the hazards of asbestos in the buildings. Section 4 contains a table describing the locations of identified asbestos containing materials by room number

**Polychlorinated biphenyls (PCBs)** There are no known PCBs located at this facility.

# Chemical

- There is storage of large amounts of “in-use” chemicals in the Laboratories.
- There is an aboveground tank located at N-239. It contains diesel and has a 360 gallon capacity.
- Toxic gas cabinet in Rooms 306, 334, 336B, 358, and 428 are tagged out and not in service.

# Radioactive Materials Use


Radioactive materials are currently used in the following lab areas:

203A, 274, 314, 318, 334, 335, 354, 378,  
and 421

# N-239 Evacuation Plan

- ☛ **Activating The Building's Audible Evacuation Alarms**
- ☛ Fires and other emergencies requiring evacuation will be reported by activating a fire alarm pull station. If building alarms do not sound, or the fire department has not arrived within 3 minutes, call 9-1-1 on a NASA office phone or NASA (650-604-5555) on pay and cellular phones). Make this call only after you have evacuated to a safe area. **The primary concern is to ensure the evacuation of the building.**






The building's audible evacuation alarms can be activated by:

- Activating a fire alarm pull box; or,
- Requesting remote activation by the Duty Office at the time of the 9-1-1 call.

The person who reports the emergency is requested to meet the Fire Department at the main building entrance to give a description of the emergency.



# Activating the 911 Telephone System (Other Emergencies)

For emergencies that may not require immediate evacuation, such as medical emergencies and security problems, call 911 on a NASA phone (650-604-5555 on pay and cellular phones). When your call is answered, proceed as follows:



- ☛ Give the 911 dispatcher your name, location, and the nature of the emergency.
- ☛ Stay on the phone to answer questions and provide additional information as requested.
- ☛ In a medical emergency incident, meet emergency personnel upon their arrival and direct them to the person(s) needing assistance.

# General Evacuation Procedures

Evacuation routes for each floor of each building shall be posted in a noticeable/central location on each floor of a building. See map section in the BEAP (<http://beap.arc.nasa.gov>) for evacuation route map(s) for this building.

You **must** evacuate if an alarm or other means is used to signal a building evacuation. Please take your personal belongings with you if evacuation conditions permit: purse, wallet, car keys, prescription medication, and eye glasses.







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- Leave through the nearest safe exit.
  - Do not exit through any high hazard areas.
  - Walk briskly, do not run.
  - Close doors behind you, but do not lock the door.
  - Do not use elevators to evacuate
  - Do not use fire extinguishers or other emergency equipment unless you have been trained to do so.
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**Proceed to the following assembly areas:**

*In front of N239, across Mark Ave  
under the trees or on the sidewalk.*

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- Keep all roadways and entrance ways clear for emergency vehicle access.
  - Report to your supervisor immediately.
  - Inform your supervisor of any missing persons and their last known location.
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- Follow the instructions of line management, security and emergency response personnel.
  - Designated assembly areas may be relocated if they become unsafe.
  - Do not reenter the building for any reason until given clearance by the Fire Department of designated Incident Commander.( 3 short bells)
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# Special Assistance Coordinator

A buddy system/assistance plan should be established to provide assistance for a disabled person who is unable to evacuate immediately.


A buddy is to remain with a disabled person in an area protected from the fire by fire sprinklers or closed doors, while another buddy notifies emergency responders by calling 911 again and notifying dispatch of the need to assist a person unable to use the stairs.





Facility specific evacuation or shutdown  
procedures: None

For emergency equipment and systems  
please see map section in the BEAP  
(<http://beap.arc.nasa.gov>)



## N239 FIRE PREVENTION PLAN

**Major Workplace Fire Hazards:** There are no operations that present unusual fire hazards.

### **To avoid unnecessary evacuations**

The fire alarm sensors in bldg 239 are very sensitive! Before any kind of construction work or heavy cleaning is done in a lab or office please contact Julie Nottage (43711) one day before so I can have the fire alarm sensors turned off in that area.

## Maintenance of Fire Alarm and Control Equipment

The following organizations are responsible for maintenance of fire control equipment:



- Fire Alarm and Sprinkler Systems: Code JFP  
COTR For Maintenance Contract, 604-4106
- Portable Fire Extinguishers: Code QH  
Occupational Safety Manager, 604-5602




## Fire Prevention and Housekeeping

Effective housekeeping procedures shall be implemented in accordance with NFPA 101, the Uniform Fire Code, 29 CRF 1910. 22 and the Ames Health and Safety Manual, AHB 1700.1, Chapter 20, with the goal of preventing hazardous accumulations of combustible trash and debris and the maintenance of, access to, and use of emergency exits and fire protection equipment. The following guidelines apply:




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- Means of egress shall be arranged and maintained to provide free and unobstructed egress from all parts of the building at all times when it is occupied.
  - Corridors, stairways, and other means of egress shall be kept clear of storage, and not used for recycling bins, copy machines, mail handling operations, coffee/snack/vending machine areas or other office operations.
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- Exit doors, fire doors, fire sprinkler systems, fire alarm systems, emergency lighting and other life safety systems and equipment shall be maintained fully functional at all times and have priority on maintenance.

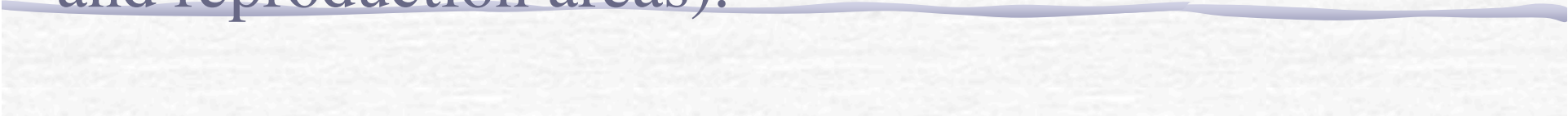
- No object shall be located in such a manner as to prevent access to, or use of fire protection equipment such as fire extinguishers, fire alarm pull stations, fire hydrants, fire hose outlets, and siamese connections.






- Sprinkler piping or hangers shall not be used to support non system components.

- Waste cans shall be provided in sufficient numbers in all areas subject to accumulations of combustible trash. Metal waste cans with self-closing lids shall be provided in sufficient numbers in areas where cloth rags or paper towels saturated with oil, paint, ink, or other combustible or flammable liquid may be found. (e.g., vehicle repair shops, paint shops, and printing and reproduction areas).









- When activities occur that generate a large quantity of combustible trash and debris (such as woodworking or building construction), a general cleanup shall be conducted at the end of the day. All refuse shall be removed from the building on a daily basis.

- In all facilities, but especially in offices and research laboratories, where an inordinate amount of publications, files, and loose paper are found, a general house-cleaning effort shall be periodically conducted to remove all items that no longer serve a useful purpose.








- New operations, or changes in existing operations that involve hazardous materials should be brought to the attention of the Fire Department. These conditions may effect the manner in which the Fire Department would approach or fight a fire.

- Areas above suspended ceilings and below raised floors shall not be used for storage purposes. Electrical and communications wiring through these areas shall be installed in conduit, or be the type of cable allowed by NFPA 70 for spaces used for environmental air.



## For Further Information

The following organizations can provide additional information of fire prevention and housekeeping:

- Occupational Safety Manager, Code QH: 604-5602
- Fire Marshal, Code JF: 604-4302

# N-239 Hazardous Materials Spill Response Plan


## **Hazardous Materials Inventory of this Building**

A Hazardous Materials Inventory of this Building is provided as Appendix 1. (<http://beap.arc.nasa.gov>)


The Hazardous Materials inventory describes chemical type, quantity, and storage locations within this building. The Hazardous Materials Storage Locations map also describes types and quantity ranges of materials present.

The Hazardous Materials Inventory shall be updated at least annually by inventory owners and reported to QE. Use the Environmental Self Inspection form provided in Appendix 2 to conduct weekly hazardous materials storage inspections.





The operator of each facility with a hazardous materials storage area maintains all records pertaining to hazardous materials. These records include but are not limited to a log of recordable spills, hazardous materials inspections, hazardous waste inspections, and tank inspections. Employee training records are maintained by NASA Ames Research Center in a database. A description of the training program is maintained by the Safety Office and is also located in each training catalogue.






# Hazardous Materials Spill Procedure for Reportable Spills

**A Reportable Spill** is any actual or threatened release of a hazardous material which enters the environment. Examples are:

- A spill enters a storm drain or ditch
- A spill enters the sanitary sewer
- A spill contacts soil
- A spill contacts asphalt (particularly in the case of solvents)
- A spill into secondary containment requiring more than 8 hours to clean up.



Or, a spill results in real, or potential, injury to persons, or the environment. Examples are:

- A release of a gaseous material which injures someone.
  - A release of a gas, mist or fume which impacts soil, water or biota.
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## In the event of a Reportable Spill:

- Evacuate and deny entry to the affected area.
- Create barriers or designate guards to control access and traffic.
- Call 911 and provide all available information.
- The Duty Office will dispatch the on-site spill response team.
- The Duty Office will notify the Environmental Services Office, who will make the necessary regulatory agency notifications.





# Procedure for Small, Non-Reportable (but recordable) Hazardous Materials Spills:

A Non-Reportable (but recordable) Hazardous Materials Spill is one in which a hazardous material does not escape to the environment and:

- Will not pose a health risk to individuals in the immediate area.
- Can be controlled and contained with on-hand spill response materials appropriate to the task.
- The properties of the material are well known to the person(s) to be controlling and containing the spill.



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- The person(s) controlling and containing the spill have had appropriate training.
  - To control and contain the spill requires less than 2 man-hours.
  - If any of these criteria cannot be met, CALL 9-1-1.
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## In the event of a Small, Non-Reportable (but recordable) spill:

- Contain and control the spill with available appropriate spill response equipment.
- Manage spill containment materials as hazardous waste.
- Record the event on the Recordable Spill Log form provided in Appendix 2. (<http://beap.arc.nasa.gov>)
- Remember, according to the Santa Clara County Hazardous Materials Storage Ordinance, a recordable spill into secondary containment, not cleaned up within 8 hours, becomes a reportable spill.

# **Emergency First Aid and Decontamination Procedures for Persons Contaminated in a Hazardous Materials Spill.**

## **Acute Emergency Exposures**

- Anyone whose skin and/or clothing has been contaminated by a hazardous material which may pose a hazard to medical or other response personnel must be decontaminated prior to being treated by any local emergency medical facility. Information about any contaminated people and the MSDS For the material **MUST** be given to the Duty Office so that the appropriate emergency response personnel are dispatched.



## Other Exposures

Anyone who believes they have been exposed to a hazardous material, either in an emergency or non-emergency situation, should notify the Ames Health Unit IMMEDIATELY, and if no decontamination is necessary, should report there for evaluation







## Procedure for an Uncontained Spill of Radioactive Material greater than $1.0\mu\text{Ci}$

All personnel will leave the room immediately and wait in a restricted area until they can be surveyed, before leaving the area.

Prior to cleaning a spill, notify the RADIATION SAFETY OFFICER (RSO) or RADIATION SAFETY STAFF (RSS) at the following numbers: **Telephone/Pager:**

- Patrick Muldoon (650) 604-3233/\*(650) 960-9816 (415) 974-1904
- Jamie King (650) 604-2718/\*(650) 220-6022 (209) 839-1318 (Home)
- NASA David King (650) 604-1316/\*(650) 335-3617  
(510) 474-0751 (Home)
- Security - 911 (If you cannot reach any of the above)

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- If room is to be left unattended, make certain door is locked and room is posted "**NO ENTRY**".
  - No personnel will be allowed into the spill area without proper PPE (Personal Protective Equipment).
  - PPE will consist of a labcoat, double gloves, disposable shoe covers and respirator.
  - Unless otherwise direct by the RADIATION SAFETY OFFICE, the spill will be cleaned up using paper towels or other absorbent material. Lab coat, gloves, shoe covers, respirator and absorbent materials will be surveyed prior to disposal and if contaminated, disposed of as radioactive waste.
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- RSO and/or RSS will survey spill area and personnel to verify decontamination progress.
  - Personnel involved in the spill will be requested to submit a urine specimen, if there is any concern of internal contamination. (This specimen is **not** for drug testing but for radiological monitoring).
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## How to use the Digital Pager:


1. Dial the pager phone number.
2. The phone will ring, the line will connect and three "beeps" will be heard.
3. After the three beeps, punch in the number you want called and then press the # key to transmit the message.
4. Hang up.




# How to Update This Emergency Response Plan

- This plan shall be updated at least once every two years, or within 30 days of whenever any of the following changes occur:
- There is a 100% or greater increase in the quantity of a previously disclosed hazardous material.
- The facility begins handling a previously undisclosed hazardous material at or above the HMBP regulatory amounts.

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- The addition, deletion, relocation, or modification of any hazardous materials storage area.
  - Facility modification resulting in a change in the floor plan.
  - Significant equipment modifications.
  - The local agency determines that the HMBP is deficient in any way.
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It is the Facility Manager's responsibility to make sure that changes are noted on copied sections of this plan and sent to Code QE. The indicated changes will be made and revised sections will be distributed. This will ensure that your plan is current and compliant with Santa Clara County Hazardous Materials Division at the time of your annual inspection.





## Annual Training on Contents of this Plan

- The California Health and Safety Code, Chapter 6.95, requires that all employees be given annual training on emergency response in general, and responses to chemical emergencies in particular.
- Additional training in Hazard Communication, Waste Generator Training, and Emergency Response Training is provided by Code QE.



# Annual Fire Inspection

- Each building shall have an annual Fire Inspection, conducted by California Air National Guard (CANG) Fire Department.
- Recommendations may be made by the Fire Inspector to improve the building's Emergency Action Plan. Review of the Emergency Action Plan with the Fire Inspector at the time of the inspection will indicate if updates or revisions to the Emergency Action Plan are necessary.

# Annual Fire Drill Training

- Each facility shall coordinate an annual fire drill. All procedures for shut down and evacuation shall be conducted in accordance with this document.
- The success of the fire drill shall be evaluated and any resulting necessary modifications to this plan shall be made.
- The Facility Manager must indicate to Code QE if there have been any changes in operations so that these changes can be incorporated into this Plan prior to the Fire Drill. Code QE will make the requested changes and distribute copies.